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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/473,638	12/28/1999	MAQBOOLAHMED S. PATEL	15-IS-5286	1250

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EXAMINER

KIBLER, VIRGINIA M

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 03/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/473,638

Applicant(s)

PATEL ET AL.

Examiner

Virginia M Kibler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,10-15 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,10-15 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 1,3-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/16/03 has been entered.

Response to Amendment

2. The amendment received on 12/16/03 has been entered. Claims 1, 3-8, 10-15, and 17-20 remain pending.

Claim Objections

3. Claims 1 and 3-6 are objected to because of the following informalities: "fully processed" should be changed to "fully preprocessed" in claim 1, line 16.

Claims 3-6 depend on claim 1, and are thereby objected to.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said fully preprocessed image data" in line 17. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 1-3, 5, 7-10, 12, 14-17, and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by Huang (*PACS: Basic Principles and Applications*).

Regarding claim 1, Huang discloses a method for partial preprocessing of raw image data at an image acquisition workstation (Page 200, para. 2, lines 1-2) connected to the PACS system (Page 199, para. 1, lines 1-3) including receiving raw image data from an imaging modality (Page 199, para. 1, lines 1-3), storing predetermined preprocessing functions applicable to the raw image data (Page 219, para. 4), wherein the predetermining preprocessing functions include at least one of a frequency preprocessing function and a contrast preprocessing function (Page 222, para. 6 and Page 223, para. 1-3), applying at least one and fewer than all of the preprocessing functions to the raw image data to form partially preprocessed raw image data (Page 219, para. 4,

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lines 10-14), wherein at least one of the preprocessing functions is applied to the partially preprocessed raw image data at a workstation (Page 225-226, Sect. 8.8.2), transmitting the partially preprocessed raw image data to a PACS network (Page 219, para. 4, lines 1-3), and creating fully preprocessed image data by applying all of the preprocessing functions to the raw image data to form fully preprocessed image data (Page 225-226, Sect. 8.8.2). Huang discloses databases but does not appear to explicitly specify a preprocessing and an image database, however, it would be inherent to include a preprocessing database and an image database, the preprocessing database utilized for storing the partially preprocessed raw image data, the image database utilized for storing a fully preprocessed image data.

Regarding claim 7, Huang discloses an image acquisition workstation for a PACS (Page 199, para. 1, lines 1-3) and for partial preprocessing of raw image data (Page 200, para. 2, lines 1-2) including a computer (Page. 199, para. 1, line 1), thereby a processing circuit, an imaging modality interface for receiving raw image data (Page 199, para. 3, lines 2-4), and a software memory coupled to the processing circuit (Page, 199, para. 1, line 1). The arguments analogous to those presented above for claim 1 are applicable to claim 7.

Regarding claim 14, Huang discloses a medical data network including an imaging modality, an image acquisition workstation and a PACS network interfaced to the image acquisition workstation (Page 200, para. 3, lines 1-5), the PACS network comprising a networked PACS image database, display workstation, and preprocessing database (Page 216, para. 2). The arguments analogous to those presented above for claim 7 are applicable to claim 14.

Regarding claims 3, 10, and 17, the arguments analogous to those presented above for claim 1 are applicable to claim 3, 10, and 17.

Regarding claims 5, 12, and 19, the arguments analogous to those presented above for claim 1 are applicable to claims 5, 12, and 19.

Regarding claims 8 and 15, Huang discloses the raw image data corresponding to an anatomical region, and wherein the at least one preprocessing function applied to form the partially preprocessed raw image data is selected based on the anatomical region (Page 222, para. 3-4).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 6, 11, 13, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang (*PACS: Basic Principles and Applications*) as applied to claims 1, 7, and 14 above, and further in view of Takeo et al. (6,231,246).

Regarding claims 4, 11, and 18, Huang discloses applying preprocessing functions including frequency and contrast preprocessing functions (Page 222, para. 6 and Page 223, para. 1-3). Huang does not appear to specify using a frequency preprocessing function characterized by at least one of a RN, RE, and RT preprocessing parameter. However, Takeo et al. ("Takeo")

teaches that it is known that RN, RE, and RT are frequency characteristics (Col. 10, lines 30-56). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the frequency preprocessing functions disclosed by Huang to include the characteristics taught by Takeo in order to explicitly state certain characteristics as a design choice.

Regarding claims 6, 13, and 20, Huang discloses applying a contrast preprocessing function (Page 222, para. 6 and Page 223, para. 1-3). Huang does not appear to specify using a contrast preprocessing function characterized by at least one of a GT, GA, GC, and GS preprocessing parameter. However, Takeo teaches that it is known that GT, GA, GC, and GS are contrast characteristics (Col. 7, lines 19-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the contrast preprocessing functions disclosed by Huang to include the characteristics taught by Takeo in order to explicitly state certain characteristics as a design choice.

Response to Arguments

10. Applicant's arguments filed 12/16/03 have been fully considered but they are not persuasive.

Summary of Applicant's Argument: Huang discloses that all preprocessing functions are performed by the acquisition computer, and no preprocessing functions of the image data may be performed by the display workstations. Huang does not teach storing predetermined preprocessing functions applicable to raw image data including at least one of a frequency preprocessing function and a contrast preprocessing function.

Examiner's Response: Performing preprocessing function of the image data at a display workstation is not recited in the claims. Huang discloses the claimed limitation of applying a preprocessing function to a partially preprocessed raw image data at a workstation (Page 225-226, Sect. 8.8.2). The claim language, "...said predetermined preprocessing functions include at least one of a frequency preprocessing function and a contrast preprocessing function..." requires either a frequency preprocessing function or a contrast preprocessing function. Both a frequency and a contrast preprocessing function are not required by the claim language. Huang discloses storing predetermined preprocessing functions applicable to raw image data including a contrast preprocessing function (Sect. 8.7).

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon-Thurs 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



VK
3/13/04

MEHRDAD DASTOURI
PRIMARY EXAMINER

